WRAP Protocol

For the

Production of Recycled Aggregates

At Gill Mill Quarry

Recycling & Recovery Centre

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Witney

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Contents

1) Introduction.

This WRAP protocol is Produced by Smiths & Sons (Bletchington) with the guidance of the Environmental Agency and WRAP (Waste & Resource Action Programme) and Defra Guidance for notes. The WRAP Protocol aims to reduce the demand for primary aggregates through promoting the use of alternative resources especially through recycling also without the use of hazardous materials.

Objectives and the Quality Protocols are :-

i) To provide a uniform control process from which we can reasonably state that the material imported have been fully recovered and are therefore no longer a waste material.

ii) To provide customers with a quality managed product to common aggregate Standards / Specifications or in house specifications.

Approved Industry Standards
***Unbound Recycled Aggregate** : Pipe Bedding Drainage, Granular fill, General Fill, Capping, Sub Base. BSEN 13242. Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction.*
***Recycled aggregate for concrete** : BS EN 12620: Aggregates for concrete.*

iii) To provide an auditable trail to ensure compliance with Waste Management Legislation and assessment of Non-Compliance.

2) Definitions

In this WRAP Quality Protocol, the words and phrases have the following meaning.

Aggregate : A Granular material used in construction. Aggregate can be natural, manufactured or recycled. Clays and Soils are not considered to be aggregate.

Recycled Aggregate : Aggregate produced in compliance of the Quality Protocol form inert and non-organic waste.

Inert Waste : This is waste which is neither chemically or biologically reactive and will not decompose. Its also safe for landfill and used as recycled aggregate and should comply to the WRAP Protocol.

Waste is Inert if : It does not undergo any significant physical, chemical, or Biological transformation. It does not dissolve, burn or otherwise physically chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm to human health, and its total leachability and pollution content and the ecotoxicity of it leachates are insignificant and, in particular, do not endanger the quality of any surface or ground water.

WRAP (Waste Resources Action Programme) : WRAP is a registered charity. It works with businesses, individuals and communities to achieve a circular economy through helping them reduce waste, develop sustainable products and use resources in an efficient way.

Defra : The Department for Environment, Food and Rural Affairs is the government department responsible for environmental protection, food production and standards, agriculture, fisheries and rural communities in the United Kingdom.

WAC Test (Waste Acceptance Criteria) : A test to see if the Waste material is Hazardous or Non Hazardous for land fill or for re-processing as a recycled aggregate.

Type 1 IBAA : Incinerator Bottom Ash Aggregate. Produced at the ERF Ardley site and supplied out of Smiths & Sons Ardley Dewers Quarry. Included on the Test Frequency Table on page 16 (Section 10a).

3) Factory Production Control.

The Factory Production Control is a system put in place to monitor the production and to ensure that the required products are achieved and maintained to the WRAP Protocol.

One load a month (for recovery materials only and not for aggregates) is quarantined and a sample is sent off for examination to check for contaminated waste (WAC Test). It is sometimes impossible for the finished product to be completely free of contaminants but we strive to accomplish this as best we can.

For Recycled Aggregate produced, the material produced has a Weekly / Monthly / 2 yearly / yearly tests completed on them. Please see summary of Testing Frequency on page 15.

All material sold as WRAP protocol approved aggregate is marked on the delivery tickets.

Also to make sure all the correct forms (WIF) are filled out prior and on delivery with all the correct information about waste.

All delivery tickets are kept for a minimum of 2 years.

The Following testing regime are adhered by :-

Grading	1 per week of production (working days)
Particle Density (Bulk Density)	1 per week or month of production (working days)*
Composition	1 per month of production (working days)
Water Absorption	1 per month of production (working days)
Acid Sol Sulphate	1 per month of production (working days)
LA Fragmentation	2 per year
Chloride Ion	2 per year
Drying Shrinkage	Annually
Mg Sulphate Soundess	Annually

**Denotes that Pipe Bedding Material bulk density is to be done on a weekly bases.*

4) The Operations of incoming Waste.

Waste Acceptance Procedures for Smith & Sons (Bletchington) Ltd at Gill Mill Quarry

The Landfill (England & Wales) Regulations 2002 and the Landfill (England and Wales) (Amendment) Regulations 2004 are introducing significant changes to the way that landfills must operate.

To enable us to prevent the delivery of waste, to Gill Mill Quarry, that our licence or permit does not allow us to accept, Smith & Sons (Bletchington) Ltd operate Waste Acceptance Procedures (WAP).

This includes a system of waste 'vetting' prior to its delivery to site. Such vetting will also mean our customers could avoid unnecessary journeys if they are carrying waste which is not acceptable at Gill Mill Quarry.

The Duty of Care Regulations require that all waste holders prevent, amongst other things, the unlawful deposit of waste by another person that is contrary to the conditions of a Waste Management Licence or PPC Permit.

This means that the producer or carrier of the waste must ensure that said waste is properly described when transferred to another party or the landfill site. This description must contain enough detail to prevent the landfill operator from breaching a condition of his licence, or causing environmental pollution or harm to human health. In some cases this could lead to the producer of the waste needing to carry out chemical analyses to fully understand the nature of the waste. The Landfill Regulations reinforce this, by requiring waste to be fully characterised before disposal. This may include protracted and expensive chemical tests if the composition of the waste is not already available.

However, there is a limited list of wastes that are acceptable at Gill Mill Quarry without having to be tested, but only providing the waste complies with the other restrictions imposed by the regulations

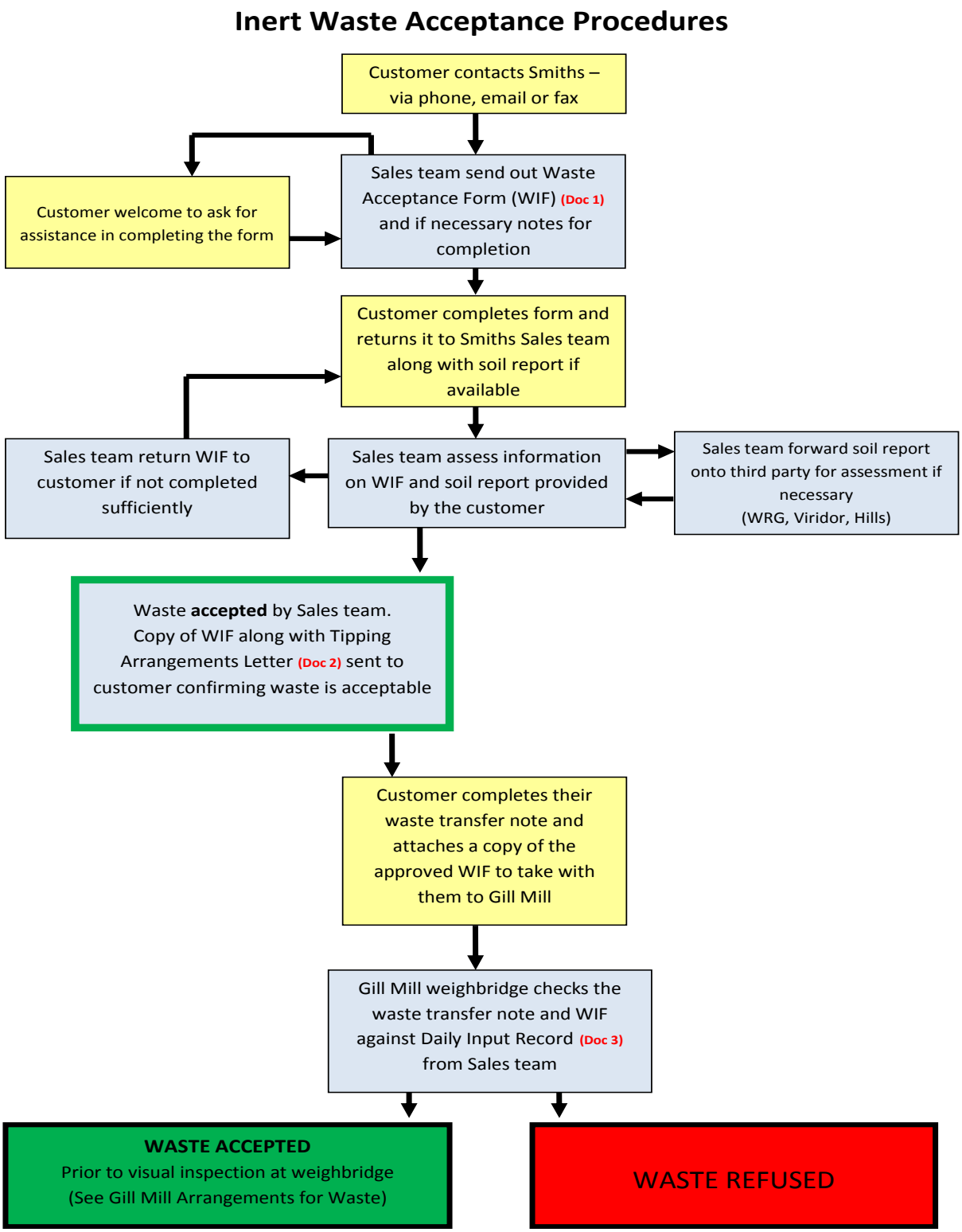
Permit Details:

Environment Agency Recycling Permit: **EPR/GB3838RF**

Environment Agency Recovery Permit: **EPR/HP3499VD**

(see flow chart on next page).

4a) Inert Waste Acceptance Procedure.



5) Waste Information Form Procedure (WIF Note).

- One form must be completed for each site, irrespective of how many tonnes/loads are to be removed from site.
- The full site address must be entered on the form, including postcode.
- Once the WIF has been completed and confirmed (Returned with a WIF number) by a member of Smith & Sons (Bletchington) Ltd sales team, then each load of material must be booked in at least 1 day prior on 01869 331281.

The following form is filled out by the customer :-

SMITHS BLETCHINGTON

WIF (Waste Information Form)

Waste Producer: Contact Name: Number:	Waste Carrier: Contact Name: Number:
Site address for source of material, with postcode:	

Total anticipated volume of waste from this site	M^3	Start Date:	
Was this material in **loose/solid/stockpiled**		End Date:	

SIC Process from which waste arises (tick box)

Demolition/Earthworks/Site Preparation (45.11)	☐
Construction of Buildings & Civil Engineering Works (45.21)	☐
Construction of Highways, Roads or Sport Facilities (45.23)	☐

Description or composition of material to be disposed (as detailed as possible, muck or earth are not acceptable)

EWC Code	17-01-01 Concrete	17-01-02 Bricks	17-01-03 Tiles & Ceramics	17-01-07 Mix Con, Bricks, Tiles & Ceramics	17-03-02 Bituminous Mixtures	17-05-04 Soil & Stones	20-02-02 Soil & Stones (Gardens & Parks)	19-12-09 Sand & Stones

Please provide any details you have of existing or previous site use that may be relevant for assessing the potential for contamination on site:

Has a site investigation been carried out? If yes please attach a copy	Yes / No	Attached ☐
Are any chemical analyses of the waste available? If yes please attach a copy	Yes / No	Attached ☐
Is a site plan showing borehole locations available? If yes please attach a copy	Yes / No	Attached ☐
Is the waste being generated by site decontamination works?		Yes / No
Does the waste contain any biodegradable material? (E.g. wood, paper, grass etc.)		Yes / No
Is the waste from multiple sources? (e.g. trammel fines from a transfer station)		Yes / No

Analyses are required for all contacts over 1000m³ (at least 3 samples for every 1000m³)

I/We confirm that the information contained in this form relates to the waste to be disposed of, that any chemical data provided is representative of the bulk of the material to be disposed of and was tested by a UKAS accredited laboratory.
(It is an offence to deliberately enter false or misleading information on this form)

Signed:..... **For & on behalf of** .....

Any liability incurred by Smith & Sons (Bletchington) Ltd from the provision of false or misleading information on this form will be directed at the waste producer as it is their legal responsibility to properly characterise their waste.

Following to be completed by Smith & Sons (Bletchington) Ltd

WIF No.

Do any analytical determinands exceed inert limits? Yes / No

ACCEPT / REJECT

Assessment Notes.....

Signed by waste assessor.....Print Name.....Date.....

6) Incoming of Waste.

All Customers MUST comply with the following procedures when bringing waste material into Gill Mill Quarry.

i) If applicable Waste Information Form must be completed (see next page).

Loads to be booked in at the Sales Office one working day prior to you wishing to tip. Please Telephone 01869 331281 or Fax 01869 332112, stating your details, origin of waste, description of waste and approximate quantity.

ii) If available, a copy of any Site Investigation/Soil Report relating to the material you wish to bring to Gill Mill must be provided.

iii) On arrival, please submit a completed Waste Transfer Note, this must include:-
* Smiths & Sons Customers Name
* Haulier Details and Waste Carrier Registration Number
* Waste Producer (Site Address if available, Name of Contractor/Builder)
* Waste Description
* Soil Report/Self Certification
* European Waste Catalogue (EWC) Code
* Confirmation on whether the waste has been treated.

Please find listed below the descriptions of material we will accept at Gill Mill (and EWC Code).

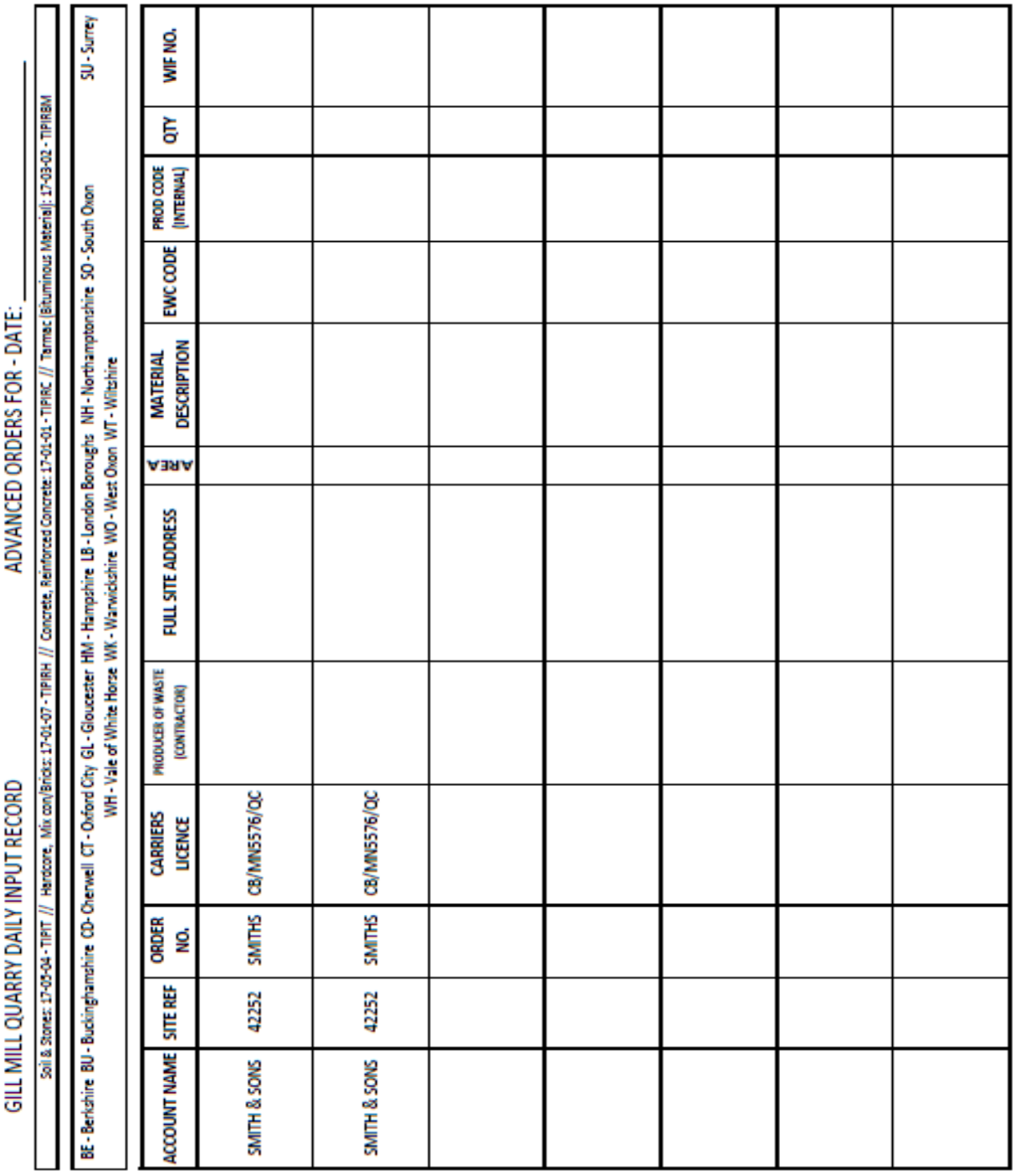
Acceptable materials:

EWC Code	Description	
17 01 01	Concrete	With ***no*** or ***low*** contents of Organic Matter, Metal, Plastic, Wood, Rubble etc
17 01 02	Bricks	With ***no*** or ***low*** contents of Organic Matter, Metal, Plastic, Wood, Rubble etc
17 01 03	Tiles and Ceramics	With ***no*** or ***low*** contents of Organic Matter, Metal, Plastic, Wood, Rubble etc
17 01 07	Mixtures of Concrete, Bricks, Tiles and Ceramics	With ***no*** or ***low*** contents of Organic Matter, Metal, Plastic, Wood, Rubble etc
17 03 02	Bituminous Mixtures	Broken Tarmac/Planings
17 05 04	Soil and Stones	Subsoil, Clay, Brash etc
20 02 02	Soil and Stones (From Gardens & Parks)	From Garden & Parks With **no Green Waste, Tree Roots, Turf etc.**
19 12 09	Minerals	Sand & Stones

The site will not accept any Green Waste, Tree Roots, Turf etc.

6a) Daily Input Record Sheet

A Daily Input Record Sheet is filled out so to keep track of waste being transferred into the quarry.



GILL MILL QUARRY DAILY INPUT RECORD

ADVANCED ORDERS FOR - DATE: _____

Soil & Stones: 17-05-04 - TIPIT // Hardcore, Mix con/Bricks: 17-01-07 - TIPIRH // Concrete, Reinforced Concrete: 17-01-01 - TIPIRC // Tarmac (Bituminous Material): 17-03-02 - TIPIRBM

BE - Berkshire BU - Buckinghamshire CD - Cherwell CT - Oxford City GL - Gloucester HM - Hampshire LB - London Boroughs NH - Northamptonshire SO - South Oxon SU - Surrey WH - Vale of White Horse WK - Warwickshire WO - West Oxon WT - Wiltshire

ACCOUNT NAME	SITE REF	ORDER NO.	CARRIERS LICENCE	PRODUCER OF WASTE (CONTRACTOR)	FULL SITE ADDRESS	AREA	MATERIAL DESCRIPTION	EWC CODE	PROD CODE (INTERNAL)	QTY	WIF NO.
SMITH & SONS	42252	SMITHS	CB/MN5576/QC								
SMITH & SONS	42252	SMITHS	CB/MN5576/QC								

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7) Rejection of Waste Material.

The Customer is then directed to the Recycling, Recovery & Restoration reception area, where the load will be inspected and directed to the relevant point for offloading.

If any loads found not to be as per description on WIF/Waste Transfer Note, it could be rejected from site if considered unacceptable within our E.A permit guidelines.
Also to comply with our E.A permit, random loads may be tipped in quarantine area where they will be sampled and WAC tested.

Document No:	
Smith & Sons (Bletchington) Ltd Waste Acceptance Procedure Gill Mill Rejected Waste Form	
Date:	
Vehicle Registration:	
Haulier Name:	
Waste Producer:	
Full Site of Origin Address:	
Waste as described by Producer (Inc EWC Code):	
Reason for waste being rejected Include description & EWC Code (if known):	
Name of person rejecting the load:	

If from the WAC test the material is found to be unsuitable we will request that the load is removed from site and disposed of accordingly.

Once disposal has been successfully completed, the customer returns to the Weighbridge where they will be issued a disposal ticket for their records, confirming the material and weight for invoicing purposes.

Left : The Rejected Waste Form which is to be filled out if the above is found .

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8) Production Process.

The recycled aggregates are produced to a recognised standard and/or specification. This specification will define the properties and characteristics of the product, as suitable for its application.
All process equipment is well maintained and monitored during process.
Input materials are stocked in a controlled manner in clearly identified at locations via a stock yard plan.
The finished product is identifiable up to the point of sale, making sure the correct material is supplied to the customer.
Procedures are in place and implemented to maintain the quality of the product during handling, storage, transport and delivery including regular inspection and testing of the product to a QA system (see section 10).

Training carried out for some staff involved on the following:

- acceptance criteria;
- procedures for non-compliant input wastes and output products;
- sampling and inspection.

Completion of WAMITAB by some staff (see Certificates in back of WRAP Protocol).

Records of relevant controls and inspections, calibrations, changes and training are maintained for a suitable period of time.
A Method Statement of Production (MSP) must be produced and maintained. The MSP represents the recovery process for the incoming waste and it is part of the FPC. It must contain a description or representation of the production process for each product type including:

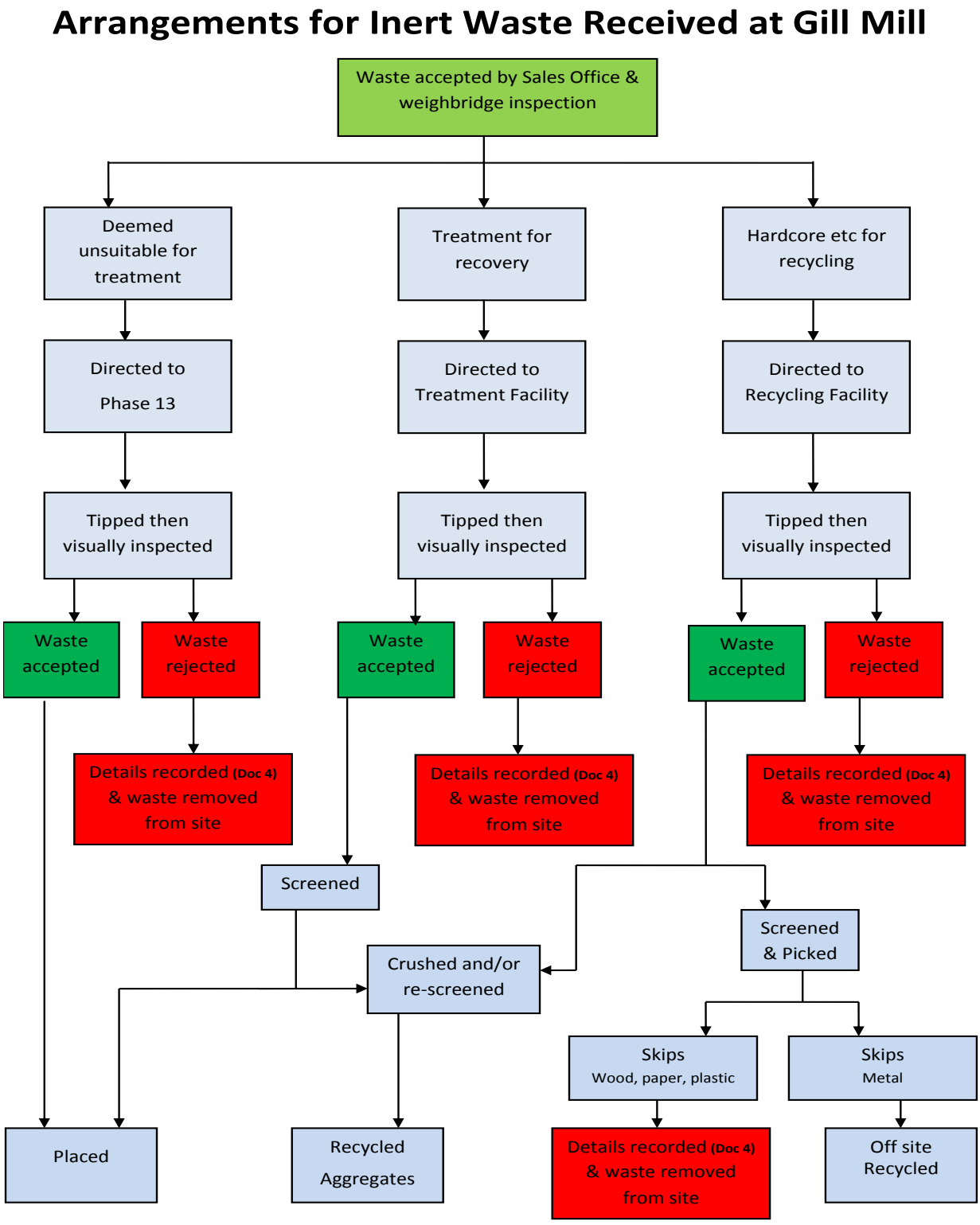
- input materials
- equipment used
- actions undertaken at each stage from acceptance of waste to allocation to product stockpiles.

Documentation :
 Delivery documentation shows:

- record the type of aggregate product despatched;
- state the site at which the product was produced;
- state that the aggregate was produced under a quality management scheme conforming to the aggregates Quality Protocol.

If requested, customers must be provided with the results from the testing regime undertaken on each product.
Historical records of test results are kept and/or made available as summary results (for example, a graph or trend of test results over time).

8a) Production Process Flow Diagram.



Above is the Recycling Plant which produces many recycled products including Clay, Washed 0/2 FP and 0.4 MP Concrete san as well as 2/10, 10/20, 20/40 single size recycled products.
Also produced on mobile plants (not pictured) are 6F5, Crushed Concrete Type 1, Asphalt Planning and Screened soils.

9) Collection of recycled products.

This is the same procedure as collecting natural aggregates where a list of products will be issued and updated when necessary. The description on this list will be standardised through the quotation, ordering and delivery procedures.

Vehicles will enter the site and tare off at the weighbridge first. The weighbridge then communicates with the shovel driver on which products the lorry driver requires. This information is either obtained from the driver himself or via an order.

The driver then will proceed to the correct loading area, for that requested product and then will await to be loaded (if new to the site or if there has been any change on site he may be instructed to the right area by the weighbridge Clarke).

When loading the shovel driver will take care to reduce the amount of noise and dust created in the loading process. This is done by keeping the shovel as low as possible.
Once loaded the driver then proceed to the weighbridge to be weighed off and then will receive a despatch ticket with the correct material information on.

10) Testing & Quality Control.

A testing plan and testing frequency regime is in place to ensure the recycled aggregate is tested to BSEN 13242 & BSEN 12620 and also conforms to the relevant specification from those standards and any in house specifications.
This is done via a weekly list of product which shows what needs to be sampled and collected from the quarry, which includes the required tests, which is then sent to the external testers and the Quarry Manager (see below). The material l is sampled by the plant operatives and then the external testing house collects the sampled bulk bagged aggregates from Gill Mill Quarry (once a month the external testers sample the aggregate themselves).
From the results sent from the external test house, Data Sheets, CE Certificates, Basic Grading trends and graphs (via Grad Lab Database System) are produced and made available for any customer requests.

SMITHS BLETCHINGTON

O/N:19574 /AS

Testing Materials ex Gill Mill Quarry
19th November 2014

20/40 Gc85/20 Limestone Shingle (40mm Shingle) Grading to BS EN 12620 **GM0747**	**10/20 Gc85/20 Limestone Shingle (20mm Shingle)** Grading to BS EN 12620 **GM0748**
4/10 Gc85/20 Limestone Shingle (10mm Shingle) Grading to BS EN 12620 **GM0746**	**4/20 Gc90/15 Limestone Shingle (20-5mm Shingle)** Grading to BS EN 12620 **GM0749**
4/20 Concreting Aggregate (Carb/Shingle Blend) GC90/15 Grading to BS EN 12620 LA Fragmentation **GM0761**	**2/10 Gc90/15 Limestone Shingle (10-5mm Shingle)** Grading to BS EN 12620 **GM0750**
0/10 Ga90 Concreting Ballast (10mm Washed Ballast) Grading to BS EN 12620 **GM0751**	**0/4 [CP] Gf85 (Sharp Sand)** Grading to BS EN 12620 **GM0752**
Crushed 0/4 Concreting Sand (New Plant) Grading to BS EN 12620 **GM0762**	**0/10 Ga85 Limestone/Carb Ballast Pavestone Blend** Grading to BS EN 12620 **GM0753**
10mm Recycled Pipebedding Shingle (Eco Blend) (2/10 Gc85/20) Grading to BS EN 12620 Bulk Density **GM0754**	**20mm Recycled Pipebedding Shingle (Eco Blend) (4/20 Gc85/20)** Grading to BS EN 12620 Bulk Density **GM0755**
Washed Recycled Sharp Sand (0/4) Grading to BS EN 12620 Bulk Density Water Absorption Acid Sol Sulphate **GM0756**	**Washed Recycled Fine Sand** Grading to BS EN 13139 Bulk Density Water Absorption Acid Sol Sulphate **GM0757**
0/20 Washed Recycled Ballast Grading to BS EN 12620 **GM0758**	**10mm Washed Recycled Aggregate (4/10 Gc85/20)** Grading to BS EN 12620 Bulk Density **GM0759**
Recycled Feed Material WAC Test **GM0760**	

Page **1** of **1**

Any Non Conformances are investigated and communicated back to the quarry manager with the appropriate action taken place, whether its an adjustment to the plant or just a re-sample of the product.

(left) Example of a Testing Plan.

The weekly testing plan will vary depending on what tests are required / due so can be one or two pages long.

The testing plan also includes other non- recycled aggregates from the quarry such as the natural quarried aggregate.

For an example of The Testing Frequency Regime, please see next page.

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10a) Testing Frequency.

Testing Frequency

Product	Test carried out	Frequency
40mm Washed Recycled Aggregate (20/40)	Grading Particle Density (Bulk Density) Composition Water Absorption Acid Sol Sulphate LA Fragmentation Chloride Ion Drying Shrinkage Mg Sulphate Soundess	1 per week of production (working days) 1 per month of production (working days 1 per month of production (working days) 1 per month of production (working days) 1 per month of production (working days) 2 per year 2 per year Annually Annually
20mm Recycled Pipebedding Shingle Blend (10/20)	Grading Particle Density (Bulk Density) Composition Water Absorption Acid Sol Sulphate LA Fragmentation Chloride Ion Drying Shrinkage Mg Sulphate Soundess	1 per week of production (working days) 1 per month of production (working days 1 per month of production (working days) 1 per month of production (working days) 1 per month of production (working days) 2 per year 2 per year Annually Annually
10mm Recycled Pipebedding Shingle Blend (4/10)	Grading Particle Density (Bulk Density) Composition Water Absorption Acid Sol Sulphate Chloride Ion Drying Shrinkage Mg Sulphate Soundess	1 per week of production (working days) 1 per month of production (working days 1 per month of production (working days) 1 per month of production (working days) 1 per month of production (working days) 2 per year Annually Annually
Washed Recycled Sharp Sand (0/4)	Grading Particle Density (Bulk Density) Composition Water Absorption Acid Sol Sulphate Chloride Ion Drying Shrinkage	1 per week of production (working days) 1 per month of production (working days) 1 per month of production (working days) 1 per month of production (working days) 1 per month of production (working days) 2 per year Annually
Washed Recycled Fine Sand (0/2)	Grading Particle Density (Bulk Density) Composition Water Absorption Acid Sol Sulphate Chloride Ion Drying Shrinkage	1 per week of production (working days) 1 per month of production (working days) 1 per month of production (working days) 1 per month of production (working days) 1 per month of production (working days) 2 per year Annually
20mm Washed Recycled Ballast	Grading	1 per week of production (working days)
Crushed Concrete Type I Graded	Grading Composition LA Fragmentation Crushed & Broken Particles Particle Density & Water Absorption Frost Heave	1 per week of production (working days) 1 per week of production (working days) 1 per week of production (working days) 1 per week of production (working days) 1 per week of production (working days) Annually
Recycled 6F2 (Crushed Concrete Hardcore)	Grading Composition LA Fragmentation	1 per week of production (working days) 1 per week of production (working days) 1 per week of production (working days)

Smiths & Sons (Bletchington) Ltd, Enslow, Kidlington, Oxon, OX5 3AY (Tel : 01869 331281), (Fax : 01869 332112).

11) WRAP Protocol Training.

Date	Name	Signed	Completion of WAMITAB - Yes or No?

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12) WRAP Protocol Document Amendments

Originator Name	Document No. and Title	Page No.	Nature of Change	Amendment Ref No.	Date